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I claim:

1. A multi-channel reverberation system comprising:

multiple signal inputs, one for each input channel;

a number of feed back comb filter networks connected one to each signal input, each comb filter network including a feed forward stage to provide a substantially constant multi-channel power gain at audio frequencies;

a cross-coupling network cross-coupling the comb filters to increase the reverberation echo density;

and multiple signal outputs, one for each output channel.

2. A multi-channel reverberation system according to claim 1, wherein the feed forward stage of the comb filters provides a transfer function matrix which is unitary at each frequency in the audio range.

3. A multi-channel reverberation system according to claim 1, wherein the cross-coupling matrix is an orthogonal cross-coupling matrix cross-coupling a number of single channel allpass comb filters, positioned immediately before or after the delay lines, to create a multi-channel allpass comb filter with a unitary transfer function matrix at all frequencies.

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